

What is claimed is:

1. A profile-extruded article of a fiber-reinforced polymer of vinyl-chloride monomer, wherein the article has a ratio of actual specific gravity to theoretical specific gravity of nearly unity.

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2. The article of Claim 1, the ratio of actual specific gravity to theoretical specific gravity ranges from about 0.90 to about 0.99.

3. The article of Claim 1, the ratio of actual specific gravity to
10 theoretical specific gravity ranges from about 0.95 to about 0.99.

4. The article of Claim 1, the ratio of actual specific gravity to theoretical specific gravity ranges from about 0.97 to about 0.99.

15 5. The article of Claim 1, wherein the polymer of vinyl chloride monomer has a weight average molecular weight ranging from about 30×10^3 to about 168×10^3 .

20 6. The article of Claim 1, wherein the fiber is selected from the group consisting of glass, nylon, graphite, wood, and combinations thereof.

7. The article of Claim 6, wherein the article has glass fibers.

25 8. The article of Claim 1, wherein the fibers have a length ranging from about 500 μm to about 1 mm.

9. The article of Claim 1, wherein the fibers are present in the polymer up to about 40 percent by weight.

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10. A method of making a fiber-reinforced poly(vinyl chloride)-
containing article, comprising the steps of:

(a) feeding granules of poly(vinyl chloride) reinforced with fibers into a
two-stage, single-screw extrusion apparatus that has a vent at the beginning of
5 the second stage for devolatilization of outgasses during extrusion; and

(b) extruding fiber-reinforced poly(vinyl chloride) through a profile
extrusion die.

11. The method of Claim 10, wherein between step (a) and step (b) the
10 following steps occur:

(1) compression of the fed granules in a transition zone of the
screw along with melting of the compressed material at a barrel/material
interface,

(2) continued melting along with dispersive mixing in a
15 metering/mixing zone of the screw,

(3) decompression of compressed and melted/ partially melted
material at a start of a second zone of the screw,

(4) devolatilization of the decompressed material to remove
volatiles including moisture, and

20 (5) build-up of melt pressure and conveying of the devolatilized
melt to the die.

12. The method of Claim 11, wherein the extrusion apparatus has a
L/D ratio ranging from 20:1 to 40:1.

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13. The method of Claim 12, wherein screw configurations are
selected from the group consisting of increasing pitch, standard, decreasing
pitch, double flighted, two stage vented, and combinations thereof.

14. The method of Claim 13, wherein the screw includes mixing pins, slotted disks, or both.

5 15. The method of Claim 11, wherein the decompression is in the range of from 2 to 95 kilopascals.

10 16. The method of Claim 10, wherein the fiber-reinforced poly(vinyl chloride) extruded through the profile extrusion die has a ratio of actual specific gravity to theoretical specific gravity of nearly unity.

17. The method of Claim 16, wherein the ratio of actual specific gravity to theoretical specific gravity ranges from about 0.90 to about 0.99.

15 18. The method of Claim 16, wherein the ratio of actual specific gravity to theoretical specific gravity ranges from about 0.95 to about 0.99.

19. The method of Claim 16, wherein the ratio of actual specific gravity to theoretical specific gravity ranges from about 0.97 to about 0.99.

20 20. The method of Claim 11 wherein the granules contain fibers in an amount up to about 40 percent by weight.